

We Claim as Our Invention:

1. A 3-dimensional-model-processing apparatus for processing a 3-dimensional model appearing on a display unit on the basis of 3-dimensional-position information input from a 3-dimensional sensor, said 3-dimensional-model-processing apparatus
5 comprising:

a controller for setting an operating point or an operating area used as a position at which processing using a processing tool is to be carried out on said 3-dimensional model serving as a processed object appearing on said display unit as a position dependent upon the position of said processing tool and carrying out said processing
10 on said 3-dimensional model at said set operating point or said set operating area.

2. A 3-dimensional-model-processing apparatus according to claim 1, wherein said controller sets an overlap portion of said operating point or said operating area and said 3-dimensional model as a processing execution position.
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3. A 3-dimensional-model-processing apparatus according to claim 1, wherein said controller executes control to clearly display said operating point or said operating area on said display unit.

20 4. A 3-dimensional-model-processing apparatus according to claim 1, wherein: said operating point or said operating area is allowed to be updated as a position dependent upon said processing tool by changing and/or re-setting said operating point or said operating area; and

said controller carries out, if said operating point or said operating area is
25 updated, said processing on said 3-dimensional model at said updated operating point or said updated operating area.

5. A 3-dimensional-model-processing apparatus according to claim 1, wherein said controller executes control to make said operating point movable, constraining
30 said operating point on positions on said surface of said 3-dimensional model being processed.

6. A 3-dimensional-model-processing apparatus according to claim 1, wherein:
said operating area is set as an area having a shape matching the shape of said
processing tool; and

5 said controller carries out processing according to the shape of said operating
area set as an area having a shape matching the shape of said processing tool on said
3-dimensional model.

7. A 3-dimensional-model-processing apparatus according to claim 1, wherein
said controller carries out processing on said 3-dimensional model on the condition
10 that an overlap portion of said operating point or said operating area and said 3-
dimensional model has been detected.

8. A 3-dimensional-model-processing apparatus according to claim 1, wherein
said controller carries out processing on said 3-dimensional model on the condition
15 that an overlap portion of said operating point or said operating area and said 3-
dimensional model has been detected and that a processing command has been
received from input means.

9. A 3-dimensional-model-processing method for processing a 3-dimensional
20 model appearing on a display unit on the basis of 3-dimensional-position information
input from a 3-dimensional sensor, comprising the steps of:

setting an operating point or an operating area used as a position at which
processing using a processing tool is to be carried out on said 3-dimensional model
serving as a processed object appearing on a display unit as a position dependent upon
25 said position of said processing tool; and

carrying out said processing on said 3-dimensional model at said set operating
point or said set operating area.

10. A 3-dimensional-model-processing method according to claim 9, further
30 comprising the step of setting an overlap portion of said operating point or said
operating area and said 3-dimensional model as a processing execution position.

11. A 3-dimensional-model-processing method according to claim 9, further comprising the step of displaying said operating point or said operating area on said display unit.

5 12. A 3-dimensional-model-processing method according to claim 9, wherein:
said operating point or said operating area is allowed to be updated as a position dependent upon said processing tool by changing and/or re-setting said operating point or said operating area; and

10 if said operating point or said operating area is updated, said processing on said 3-dimensional model is carried out at said updated operating point or said updated operating area.

13. A 3-dimensional-model-processing method according to claim 9, further comprising the step of executing control to make said operating point movable,
15 constraining said operating point on positions on said surface of said 3-dimensional model being processed.

14. A 3-dimensional-model-processing method according to claim 9, further comprising the steps of:

20 setting said operating area as an area having a shape matching the shape of said processing tool; and

carrying out processing according to the shape of said operating area set as an area having a shape matching the shape of said processing tool on said 3-dimensional model.

25 15. A 3-dimensional-model-processing method according to claim 9, further comprising the step of carrying out processing on said 3-dimensional model on the condition that an overlap portion of said operating point or said operating area and said 3-dimensional model has been detected.

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16. A 3-dimensional-model-processing method according to claim 9, further comprising the step of carrying out processing on said 3-dimensional model on the condition that an overlap portion of said operating point or said operating area and said 3-dimensional model has been detected and that a processing command has been
5 received from input means.

17. A program-providing medium comprising:
a computer program to be executed on a computer system for processing a 3-dimensional model appearing on a display unit on the basis of 3-dimensional
10 positional information input from a 3-dimensional sensor, the computer program comprising the steps of:
setting an operating point or an operating area used as a position at which processing using a processing tool is to be carried out on said 3-dimensional model serving as a processed object appearing on a display unit as a position dependent upon
15 said position of said processing tool; and
carrying out said processing on said 3-dimensional model at said set operating point or said set operating area.